

TOPICAL USE OF CHLORQUINALDOL*

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In 1944, Jadassohn and his co-workers (1) published a report relative to a new preparation which they found to be effective in the treatment of the pyodermas. This preparation was laboratory-tested at Basle and Zürich and found to have both *in vitro* and *in vivo* bacteriostatic activity against staphylococci. Jadassohn and his co-workers did comparison studies with another oxyquinoline derivative, iodochlor-oxyquinoline, in the treatment of pyodermas and found 5,7-dichloro-8-hydroxyquinaldine (chlorquinaldol) to be superior. They stated that the ointment containing this material had anti-mycotic value, particularly in mixed infections produced by fungi and bacteria. Metaxas (2), Felkel (3), Sigg (4), Schubert (5), and others (6, 7, 8) have confirmed these results. Less than three percent of the 210 patients studied by Pierce (9) developed "sensitization or irritation reactions." Leifer and Steiner (10) reported their experiences with two patients who had become sensitized to other oxyquinoline derivatives and were subsequently proved to have positive reactions to another derivative, 5-chloro-8-hydroxyquinaldine as well. This was considered indicative of group sensitivity to the halogenated oxyquinolines.

This study was conducted to determine the value of chlorquinaldol in dermatologic therapy.

PROCEDURE

Patients studied

Chlorquinaldol was supplied in two vehicles:

1. Petrolatum-beeswax ointment base containing 3 % of the active ingredient; the finished product was light yellow in color.
2. A vanishing cream base containing 3 % of the active ingredient; this preparation was white in color, but turned a pale yellow after application to the skin.

Patients selected

756 white and Negro patients of all ages with various dermatoses were included in this study. The patients were obtained from the out-patient department of the University Hospital and from other affiliated hospitals. Members of the dermatology staff also used these preparations in the treatment of their private patients. Whenever possible, the diagnoses and treatment results were confirmed

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by other members of the staff. This report represents a compilation of all of these results.

Method of treatment

Treatment was initiated in 391 patients with the oily base ointment and in 365 with the greaseless base cream. The oily base preparation of chlorquinaldol was used initially in all instances in which the dermatoses were dry, and the greaseless base preparation was used initially in cases in which the dermatoses were moist. In some instances, such as the treatment of the pyodermas or other dermatoses where the underlying condition was complicated by secondary pyogenic infection, it proved desirable to initiate therapy with the oily base ointment and, after the pyoderma cleared, to continue treatment with the greaseless base cream. In this latter group of patients, instructions were given to remove the surface detritus by compressing with warm water prior to the application of the ointment. In all other dermatoses, the preparation was applied two or three times daily.

RESULTS

Pyogenic disorders (Table I)

Chlorquinaldol was effective in the treatment of impetigo contagiosa and other pyodermas, including infectious eczematoid dermatitis, dermatitis exfoliativa neonatorum and paronychia. Of a total of 304 patients initiating therapy for pyogenic disorders, 266 patients returned. From this latter group, improvement was noted in 190, partial improvement in 42, and 34 showed no improvement.

TABLE I
Results of treatment with chlorquinaldol in pyogenic skin disorders

Diagnosis	Total No. of Cases Starting Treatment	Cases Lost	Total No. of Cases Followed	Improved	Partially Improved	Not Improved	Local Irritation	Hyper-sensitivity
Impetigo contagiosa	98	11	87	63	15	9	2	1
Seborrheic dermatitis	51	9	42	26	8	8	0	1
Pyodermas (extensive)	42	7	35	29	3	3	1	0
Epidermophytosis, secondarily infected	35	2	33	20	6	7	1	0
Otitis externa	38	5	33	26	4	3	1	1
Atopic dermatitis, infected	22	2	20	16	2	2	1	0
Infectious eczematoid dermatitis	9	2	7	5	2	0	0	0
Paronychia	4	0	4	2	2	0	0	0
Dermatitis exfoliativa neonatorum	3	0	3	3	0	0	0	0
Pustular bacterid	2	0	2	0	0	2	0	0
Totals	304	38	266	190	42	34	6	3

In atopic dermatitis, seborrheic dermatitis, epidermophytosis and otitis externa in which the underlying dermatosis was complicated by secondary pyogenic infection, the preparations were of value in eradicating the infection in from five to twelve days.

Results obtained in the study of dermatitis exfoliativa neonatorum (Ritter's Disease) confirmed those reported by earlier investigators (1). Prompt improvement was noted and all lesions underwent involution in two weeks. Two patients with pyogenic paronychia and 2 with monilial paronychia were also treated. The patients with the pyogenic infection recovered completely, while those with monilial infection did not respond.

Non-pyogenic disorders (Table II)

One result observed with both the ointment and the cream was relief of pruritus. In individuals who had pruritus without any underlying dermatosis, there was little or no relief from itching.

Atopic dermatitis: 87 patients with atopic dermatitis began treatment in this series, and 18 were lost from observation. Of the remaining 69, 35 were definitely improved, 20 were partially improved and 14 were not benefited. The most notable effect in this condition was relief from pruritus. Topical therapy with chlorquinaldol was used as an adjunct to afford the patient relief while a search was made for etiological factors.

Contact dermatitis: 84 patients with contact dermatitis began treatment with the ointment or cream, but 13 were lost from observation. Of the 71 cases followed, 31 were completely relieved of symptoms, 24 were partially improved

TABLE II
Results of treatment with chlorquinaldol in non-pyogenic skin disorders

Diagnosis	Total No. of Cases Starting Treatment	Cases Lost	Total No. of Cases Followed	Improved	Partially Improved	Not Improved	Local Irritation	Hyper-sensitivity
Atopic dermatitis.....	87	18	69	35	20	14	3	1
Contact dermatitis (all causes).....	84	13	71	31	24	16	2	1
Lichen simplex chronicus (neurodermatitis).....	68	8	60	35	18	7	3	0
Psoriasis.....	37	6	31	2	17	12	0	0
Nummular eczema.....	28	4	24	12	8	4	2	0
Stasis dermatitis.....	22	4	18	8	6	4	1	0
Pityriasis alba.....	8	2	6	2	2	2	0	0
Erythrodermia desquamativa.....	2	0	2	2	0	0	0	0
Pruritus ani.....	18	3	15	0	9	6	1	0
Miliaria rubra.....	10	2	8	7	0	1	1	0
Totals.....	364	60	304	134	104	66	13	2

and 16 patients failed to improve. During the course of treatment, all other medication was withheld and, whenever possible, irritating factors such as soap, detergents and solvents were eliminated from contact with the patients.

Lichen simplex chronicus: Of 68 patients, 8 were lost from observation. 35 of the remaining 60 were greatly improved, 18 were partially improved and 7 did not improve. As in atopic dermatitis, the major benefit was relief from pruritus.

Nummula: eczema: Of the 28 patients treated with the ointment or cream, 4 were lost from observation. Among the 24 patients followed, involution of lesions occurred in 12, 8 were partially improved and 4 were not improved.

Stasis dermatitis: 22 patients were treated with ointment or cream. Four were lost from observation, 8 improved, 6 partially improved and 4 were not benefited.

Erythrodermia desquamativa (Leiner's disease): Two infants with this condition were treated with the ointment. Prompt improvement was noted and all lesions subsided in two weeks.

Pruritus ani: The results obtained in the treatment of this condition were not impressive. Fifteen of the patients were followed, 9 showing partial improvement, 6 no improvement, and 3 were lost from observation. When the medication was discontinued, the condition recurred.

Miliaria rubra: Of this group of 10 patients, 2 were lost from observation, 7 of the remaining 8 were relieved by the application of the cream, and 1 was not benefited.

Conditions not benefited (Table III)

The medication proved to be of no value in herpes zoster, neurotic excoriations, lichen sclerosus et atrophicus, tinea capitis, trichophytosis corporis, uncomplicated epidermophytosis, pityriasis rosea, acne vulgaris, vitiligo, verruca vulgaris,

TABLE III
Non-pyogenic skin disorders not benefitted by chlorquinaldol

Diagnosis	Total No. of Cases	Effect on Pruritus or Pain
Herpes zoster	6	0
Neurotic excoriations	2	0
Lichen sclerosus et atrophicus	2	+
Tinea capitis	9	0
Trichophytosis corporis	10	0
Epidermophytosis, uncomplicated	12	0
Pityriasis rosea	10	0
Acne vulgaris	6	0
Vitiligo	2	0
Verruca vulgaris	4	0
Varicella	2	0
Dermatitis exfoliativa	6	0
Erythema multiforme, papular	2	0
Urticaria	2	0
Dermatitis medicamentosa	2	0
Lichen planus	11	+
Total	88	

varicella, dermatitis exfoliativa, papular erythema multiforme, urticaria, dermatitis medicamentosa, lichen planus, and pustular bacterid.

Reactions

Reactions of specific hypersensitivity were found in five patients as demonstrated by positive patch tests. Nineteen patients developed evidence of primary irritation due to local application of the ointment or cream. The patch tests in this latter group gave negative results.

SUMMARY AND CONCLUSIONS

1. Seven hundred fifty six patients with various dermatoses were treated with chlorquinaldol in an oily ointment base or greaseless base cream.

2. Chlorquinaldol proved to be of value in the topical treatment of pyodermas and other dermatoses complicated by secondary pyogenic infection.

3. These preparations are effective antipruritic agents.

4. Chlorquinaldol is also of value as an adjunct in the treatment of atopic dermatitis, seborrheic dermatitis, contact dermatitis, neurodermatitis, psoriasis, nummular eczema, stasis dermatitis, otitis externa, erythrodermia desquamativa, dermatitis exfoliative neonatorum, miliaria rubra and infectious eczematoid dermatitis.

5. The preparation proved to be of no value in the treatment of herpes zoster, neurotic excoriations, lichen sclerosus et atrophicus, tinea capitis, trichophytosis corporis, uncomplicated epidermophytosis, pityriasis rosea, acne vulgaris, vitiligo, verruca vulgaris, varicella, dermatitis exfoliativa, papular erythema multiforme, urticaria, dermatitis medicamentosa, lichen planus and pustular bacterid.

6. Six hundred fifty eight patients returned for follow-up examinations. Of these five developed a reaction of specific hypersensitivity and nineteen developed local irritative phenomena.

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